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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,613	02/23/2004	Robert J. Linhardt	875.082USI	2043

21186 7590 01/24/2007
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
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MINNEAPOLIS, MN 55402

EXAMINER

KRISHNAN, GANAPATHY

ART UNIT	PAPER NUMBER
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1623

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p align="center">10/786,613</p>	<p>Applicant(s)</p> <p align="center">LINHARDT ET AL.</p>	
	<p>Examiner</p> <p align="center">Ganapathy Krishnan</p>	<p>Art Unit</p> <p align="center">1623</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The amendment filed 8/21/2006 has been received, entered and carefully considered.

The following information provided in the amendment affects the instant application:

1. Claims 11-20 have been canceled.
2. Claims 1 and 6 have been amended.
3. Remarks drawn to objections of claims and drawings and rejections under 102 and 103.

Claims 1-10 are pending in the case.

Drawings

The objection to Figure 5 for the lack of a legend has been overcome by filing an amended Figure 5 with a legend.

Claim Objections

The objection to claims 11-20 has been rendered moot by cancellation of the claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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The rejection of claims 11-20 under 35 U.S.C. 102(b) as being anticipated by Bernfield et al (US 6,028,061) has been rendered moot by cancellation of claims 11-20.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The rejection of claims 1-10 under 35 U.S.C. 103(a) as being unpatentable over Bernfield et al (US 6,028,061) in combination with Zetter (Annu. Rev. Med. 1998, 49, 407-24) is being maintained for reasons of record.

Applicants have traversed the rejection by arguing that:

1. The '061 patent discusses compounds that are reported to possess anti-angiogenic properties. It does not provide any data demonstrating that the compounds are effective to treat cancer or inhibit a increase in volume or mass of tumor.

2. Zetter generally reviews angiogenesis and tumor metastasis.

According to the Applicants the combination of the prior art references does not render the instant invention obvious.

Applicants arguments are not found to be persuasive.

The '061 patent clearly states that tumor growth and metastasis is angiogenesis dependent and the tumor must continuously stimulate the growth of new blood vessels for itself to grow (col. 2, lines 5-8; col. 3, lines 1-3). According to the '061 patent, preliminary results using other

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antiangiogenic substances are promising and new agents are needed (col. 2, lines 16-20). Several inhibitors of the FGF-2 mitogenic activity are antiangiogenic and are useful in cancer chemotherapy (col. 2, lines 49-53). Acharan sulfate, the active agent in the invention of the '061 patent (instant claims are also drawn to the same compound) show FGF antagonist activity (col.5-6, example 1; col. 7, Table 2). The determination of effective dosage is also taught by the patent (col. 4, lines 24-67). This also provides the basis of an effective dosage for the treatment of tumor/cancer and reduction of tumor volume as instantly claimed.

Zetter teaches that after three decades of intensive research it is known that both expansion of the primary tumor and metastasis to distant organs depend critically on the formation of new blood vessels that provide increased availability of oxygen and nutrients to the tumor and an exit of the tumor cells into the blood stream (page 418, Summary, beginning). Zetter also states further that the best strategy for inhibiting angiogenesis is by repressing the ability of the endothelial cells to participate in the angiogenic process.

Based on these teachings of the '061 and the Zetter reference it is clear that angiogenesis and tumor/cancer growth are interrelated and inhibiting angiogenesis is an art recognized way of treating tumor and cancer.

Conclusion

Claims 1-10 are rejected

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ganapathy Krishnan whose telephone number is 571-272-0654. The examiner can normally be reached on 8.30am-5pm.

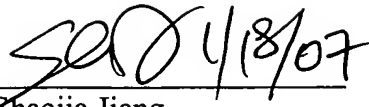
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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GK


Shaojia Jiang
Supervisory Patent Examiner
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